Amendment to the Claims:

This listing of the claims will replace all prior versions, and listings, of claims in the application.

Listing of the Claims:

1. (currently amended) A robotic surgical tool comprising:

a distal member configured to support an end effector~~, wherein the distal member has a base~~; and

~~a plurality of rods movable generally along an axial direction to adjust an orientation of the distal member with respect to the axial direction, wherein the rods are rotatably connected to the base and extending generally along the axial direction and wherein advancement or retraction of a first rod generally along the axial direction tips the base through a first angle so that the distal member faces a first articulated direction~~

first and second components constrained to move in tandem and in opposite directions generally in parallel to an axial line and rotatably coupled to the distal member so that an advancement of the first component with a corresponding retraction of the second component causes the distal member to face a first articulated direction defining a first angle with respect to the axial line.

2. (currently amended) [[A]] The robotic surgical tool as in claim 1, wherein the first angle is ~~greater than~~ within a range approximately between zero and 30 degrees.

3. (currently amended) [[A]] The robotic surgical tool as in claim [[2]] 1, wherein the first angle is ~~greater than~~ within a range approximately between zero and 60 degrees.

4. (currently amended) [[A]] The robotic surgical tool as in claim [[3]] 1, wherein the first angle is ~~greater than~~ within a range approximately between zero and 70 degrees.

5. (currently amended) [[A]] The robotic surgical tool as in claim 1, wherein ~~advancement or retraction of a second rod generally along the axial direction tips the base through a second angle so that the distal member faces a second articulated direction~~ an advancement of the second component with a corresponding retraction of the first component causes the distal member to face a second articulated direction defining a second angle with respect to the axial line.

6. (currently amended) [[A]] The robotic surgical tool as in claim 5, wherein the second angle is ~~greater than~~ within a range approximately between zero and 30 degrees.

Claim 7 (canceled).

8. (currently amended) [[A]] The robotic surgical tool as in claim 5, ~~wherein the plurality of rods comprise four rods~~ further comprising third and fourth components constrained to move in tandem and in opposite directions generally in parallel to the axial line, and rotatably coupled to the distal member so that an advancement of the third component with a corresponding retraction of the fourth component causes the distal member to face a third articulated direction defining a third angle with respect to the axial line.

9. (currently amended) [[A]] The robotic surgical tool as in claim 8, wherein ~~the first and second rods are adjacent to each other~~ intersections of the first, second, third, and fourth components through a plane orthogonal to the axial line define four corners of a square.

Claims 10-11 (canceled).

12. (currently amended) [[A]] The robotic surgical tool as in claim 1, further comprising a tool base ~~having means for advancing or retracting the first rod~~ including a mechanism to advance and retract the first component.

13. (currently amended) [[A]] The robotic surgical tool as in claim 12, wherein the ~~tool base has a first rotational actuation member to which the first rod is attached so that rotation of the first sector rotational actuation member advances or retracts the first rod~~ mechanism includes a first rotational actuation member to which the first component is coupled so that rotation of the first rotational actuation member in a first rotary direction advances the first component and rotation of the first rotational actuation member in an opposite rotary direction retracts the first component.

14. (currently amended) [[A]] The robotic surgical tool as in claim 13, wherein ~~another rod is attached to the first rotational actuation member in a position diametrically opposite to the first rod so that rotation of the first rotational actuation member simultaneously advances the first rod and retracts the another rod~~ second component is coupled to the first rotational actuation member so that rotation of the first rotational actuation member in the first rotary direction retracts the second component and rotation of the first rotational actuation member in the second rotary direction advances the second component.

15. (currently amended) [[A]] The robotic surgical tool as in claim 14, wherein rotation of the first ~~rotation~~ rotational actuation member in the first rotary direction simultaneously advances the first ~~rod~~ component and retracts the ~~another rod~~ the second component by the same amount.

Claim 16 (canceled).

17. (currently amended) [[A]] The robotic surgical tool as in claim [[16]] 15, wherein the tool base further comprises a roll ~~pulley which rotates~~ actuation mechanism coupled to the first component and ~~second rods~~ the second component so that actuation of the roll actuation mechanism causes the first component and the second component to rotate around ~~a central axis which is parallel to~~ the axial ~~direction~~ line.

18. (currently amended) [[A]] The robotic surgical tool as in claim 13, wherein the tool base further includes means for actuating the end effector.

19. (currently amended) [[A]] The robotic surgical tool as in claim 18, wherein the end effector comprises one of a group including grasping jaws, DeBakey forceps, microforceps, Potts scissors, a clip applier, a scalpel or an electrocautery probe.

20. A method of ~~actuating~~ configuring a robotic surgical tool comprising: ~~providing a robotic surgical tool comprising a wrist including a distal member coupleable with a surgical end effector and having a base, and a plurality of rods rotatably connected to the base and extending along an axial direction; actuating the wrist by manipulating a first rod of the plurality of rods to tip the base through a first angle so that the distal member faces a first articulated direction~~ constraining first and second components to move in tandem and in opposite directions generally in parallel to an axial line so that movement of the first component in a first direction with corresponding movement of the second component in an opposite direction causes a distal member supporting an end effector to be oriented at a first angle with respect to the axial line.

Claim 21 (canceled).

22. (currently amended) [[A]] The method as in claim [[21]] 20, wherein ~~advancing or retracting~~ the constraining of the first and second components to move in tandem and in opposite directions comprises ~~rotating~~ providing a first rotational actuation member to which the first ~~rod is attached~~ and second components are coupled on opposing sides so as to cause the first component to move in the first direction and the second component to move in an opposite direction when rotated in a first rotary direction.

Claims 23-24 (canceled).

25. (currently amended) [[A]] The method as in claim 22, ~~wherein actuating the wrist further comprises manipulating a second rod of the plurality of rods to tip the base through a second angle so that the distal member faces a second articulated direction~~ further comprising: constraining third and fourth components to move in tandem and in opposite directions generally in parallel to the axial line so that movement of the third component in the first direction with corresponding movement of the fourth

component in the opposite direction causes the distal member to be oriented at a second angle with respect to the axial line.

26. (currently amended) [[A]] The method as in claim 25, wherein ~~advancing or retracting~~ the constraining of the third and fourth components to move in tandem and in opposite directions comprises ~~rotating~~ providing a second rotational actuation member to which the ~~second rod is attached~~ third and fourth components are coupled on opposing sides so as to cause the third component to move in the first direction and the fourth component to move in the opposite direction when rotated in the first rotary direction.

27. (currently amended) [[A]] The method as in claim [[20]] 26, further comprising ~~actuating the wrist by rotating the plurality of rods around a central axis parallel to the axial direction to rotate the base~~ providing a roll actuation member to which the first, second, third, and fourth components are coupled so as to cause the first, second, third, and fourth components to rotate around the axial line so that the end effector is rotated about the axial line when the roll actuation member is actuated.

Claims 28-29 (canceled).

to teach or suggest that any two of its linear actuators are "constrained to move in tandem and in opposite directions."

For example, it is stated in Akeel that "each of the actuators can be extended by different amount to achieve the desired final position for the point 47." Thus, in this example, all actuators are extended, albeit by different amounts. None of the actuators are retracted while others are extended so that they would be moving in opposite directions.

Also, Claim 9 has been amended to recite "intersections of the first, second, third, and fourth components through a plane orthogonal to the axial line define four corners of a square," and such an arrangement is neither taught nor suggested by Ballantyne et al. or Akeel, alone or in combination with each other.

In Ballantyne et al., three linear actuators 16a, 16b, 16c and an extendable means 32 are shown. As is evident from its figures, the intersections of these four components through a plane orthogonal to the axial line C, however, do not define four corners of a square. They appear to define three corners of a triangle (16a, 16b, 16c) with a point in the center of the triangle (32).

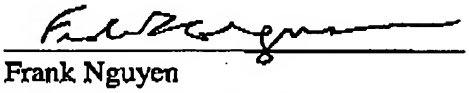
In Akeel, six linear actuators 34, 35, 39, 40, 41, and 42 are shown. As is evident from its figures, however, the intersections of any four of these components through a plane orthogonal to the axial line Z do not define four corners of a square.

Conclusion

Claims 1-6, 8-9, 12-15, 17-20, 22, and 25-27 are pending in the application. Claims 7, 10-11, 16, 21, 23-24, and 28-29 have been cancelled. Reconsideration of the rejected claims is respectfully requested, and an early notice of their allowability earnestly solicited.

Respectfully submitted,

Dated: September 8, 2005



Frank Nguyen
Registration No. 39,790
Office Phone: (408) 523-2129